

BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Foundation Diploma in Engineering Pearson BTEC International Level 3 Diploma in Engineering Pearson BTEC International Level 3 Diploma in Electrical/Electronic Engineering Pearson BTEC International Level 3 Diploma in Mechanical Engineering Pearson BTEC International Level 3 Diploma in Digital Engineering Pearson BTEC International Level 3 Diploma in Manufacturing Engineering Pearson BTEC International Level 3 Diploma in Aeronautical Engineering Pearson BTEC International Level 3 Extended Diploma in Engineering Pearson BTEC International Level 3 Extended Diploma in Electrical/Electronic Engineering Pearson BTEC International Level 3 Extended Diploma in Mechanical Engineering Pearson BTEC International Level 3 Extended Diploma in Digital Engineering Pearson BTEC International Level 3 Extended Diploma in Manufacturing Engineering Pearson BTEC International Level 3 Extended Diploma in Aeronautical Engineering
Unit number and title	Unit 36: Programmable Logic Controllers
Learning aim(s)	A: Investigate the technology used in industrial Programmable Logic Controller systems
Assignment title	Investigating the use of PLCs in the Energy Industry
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have been working as the sole engineer at a small hydroelectric company. The directors of the company are looking to upgrade the controller system for the automated running of one of the turbines. You have been asked to investigate, design and develop a PLC system for the turbine.
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Task 1	Before you start the design and development of the system, the directors would like you to investigate and compare two contrasting industrial PLC control systems. They would like you write a report comparing a real liquid level process (a pumping station for a waste water plant) and a household electric heater, using diagrams to help evaluate each system. You should include the following features and requirements: • Power supplies • Central Processor Unit
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	• Unitary vs Modular controllers • Input interfaces • Output interfaces • Peripheral input devices • Peripheral output devices • PLC scans Identify possible improvements that could be made to each system.
Checklist of evidence required	A report, containing annotated diagrams, on the comparison between the two systems.
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
36/A.P1	Explain the features and functions of the technology found in two contrasting industrial PLC systems.
36/A.M1	Analyse the suitability of the technology found in two contrasting industrial PLC systems.
36/A.D1	Evaluate using language that is technically correct and a high standard, the suitability of the technology found in two contrasting industrial PLC systems, suggesting improvements where possible.
Sources of information to support you with this Assignment	www.PLCs.net - Online PLC Tutor Introduction to PLCs : A beginner's guide to Programmable Logic Controllers. Androver, Elvin (2012)